

WHAT IS CLAIMED IS:

1. A method of forming a thin film using an ink jet head, comprising:
discharging liquid droplets containing a thin-film-forming material and
a solvent from a liquid discharge port of the ink jet head to positions on a substrate
5 while the liquid discharge port is being moved relatively to said substrate;
removing a solvent vapor evaporating from a droplet arranged
previously on the substrate; and
discharging liquid droplets at a low partial vapor pressure of the
solvent.
- 10 2. A method of forming a thin film using an ink jet head, comprising:
discharging liquid droplets containing a thin-film-forming material and
a solvent from a liquid discharge port of the ink jet head to positions on a substrate
while the liquid discharge port is being moved relatively to said substrate;
controlling a solvent vapor evaporating from a droplet arranged
15 previously on the substrate; and
discharging liquid droplets at a low partial vapor pressure of the
solvent.
- 20 3. An ink jet apparatus, comprising:
liquid droplets discharging device; and
a solvent vapor removing device;
wherein said solvent vapor removing device remove a solvent vapor
evaporating from a droplet arranged previously on the substrate.
- 25 4. An ink jet apparatus, comprising:
liquid droplets discharging device; and
a solvent vapor controlling device;
wherein said solvent vapor controlling device controls a solvent vapor
evaporating from a droplet arranged previously on the substrate.
- 30 5. A method of producing an organic electroluminescence device,
comprising:
discharging liquid droplets containing the organic electroluminescence
material and a solvent from a liquid discharge port of the ink jet head to positions on a
substrate while the liquid discharge port is being moved relatively to said substrate;
removing a solvent vapor evaporating from a droplet arranged
previously on the substrate; and

discharging liquid droplets at a low partial vapor pressure of the solvent.

6. A method of producing an organic electroluminescence device, comprising:

5 discharging liquid droplets containing the organic electroluminescence material and a solvent from a liquid discharge port of the ink jet head to positions on a substrate while the liquid discharge port is being moved relatively to said substrate; controlling a solvent vapor evaporating from a droplet arranged previously on the substrate; and
10 discharging liquid droplets at a low partial vapor pressure of the solvent.

7. A method of forming an organic electroluminescence device, comprising:

 forming a first electrode;
15 discharging liquid droplets containing the organic electroluminescence material and a solvent for a color light emitting layer, above the first electrode, from a nozzle arranged at an ink jet head; removing a solvent vapor evaporating from a droplet arranged previously on the substrate;
20 discharging liquid droplets at a low partial vapor pressure of the solvent; and forming a second electrode.

8. A method of forming an organic electroluminescence device, comprising:

25 forming a first electrode; discharging liquid droplets containing the organic electroluminescence material and a solvent for a color light emitting layer, above the first electrode, from a nozzle arranged at an ink jet head; controlling a solvent vapor evaporating from a droplet arranged
30 previously on the substrate; discharging liquid droplets at a low partial vapor pressure of the solvent; and forming a second electrode.

9. A method of forming an organic electroluminescence device,
comprising:

forming a first electrode;

forming a bank;

5 discharging liquid droplets containing the organic electroluminescence material and a solvent for a color light emitting layer, at a region encompassed by the bank, from a nozzle arranged at an ink jet head;

removing a solvent vapor evaporating from a droplet arranged previously on the substrate;

10 discharging liquid droplets at a low partial vapor pressure of the solvent; and

forming a second electrode.

10. A method of forming an organic electroluminescence device,
comprising:

15 forming a first electrode;

forming a bank;

discharging liquid droplets containing the organic electroluminescence material and a solvent for a color light emitting layer, at a region encompassed by the bank, from a nozzle arranged at an ink jet head;

20 controlling a solvent vapor evaporating from a droplet arranged previously on the substrate;

discharging liquid droplets at a low partial vapor pressure of the solvent; and

forming a second electrode.

25 11. An ink jet apparatus, comprising:

a liquid droplets discharging device for discharging a second liquid droplets containing a organic electroluminescence material and a second solvent; and
a solvent vapor removing device;

30 wherein the solvent vapor removing device remove the solvent vapor evaporating from a droplet discharged from the liquid discharging device of arranged previously on the substrate.

12. An ink jet apparatus, comprising:

a liquid droplets discharging device for discharging a second liquid droplets containing a organic electroluminescence material and a second solvent; and

a solvent vapor controlling device;

wherein the solvent vapor removing device remove the solvent vapor evaporating from a droplet discharged from the liquid discharging device of arranged previously on the substrate.

5 13. A method of forming an organic electroluminescence device, comprising:

forming a first electrode;

forming a bank;

10 discharging a first liquid droplets containing a hole injection-transportation layer material and a solvent , at a region encompassed by the bank, from a nozzle arranged at an ink jet head;

removing a solvent vapor evaporating from a droplet of the first liquid droplets arranged previously on the substrate;

15 discharging liquid droplets at a low partial vapor pressure of the solvent.

discharging a second liquid droplets containing the organic electroluminescence material and a solvent for a color light emitting layer, at a region encompassed by the bank, from a nozzle arranged at an ink jet head;

20 removing a solvent vapor evaporating from a droplet of the second liquid droplets arranged previously on the substrate;

discharging liquid droplets at a low partial vapor pressure of the solvent; and

forming a second electrode.

25 14. A method of forming an organic electroluminescence device, comprising:

forming a first electrode;

forming a bank;

30 discharging a first liquid droplets containing a hole injection-transportation layer material and a solvent , at a region encompassed by the bank, from a nozzle arranged at an ink jet head;

controlling a solvent vapor evaporating from a droplet of the first liquid droplets arranged previously on the substrate;

discharging liquid droplets of the first liquid at a low partial vapor pressure of the solvent.

discharging a second liquid droplets containing the organic electroluminescence material and a solvent for a color light emitting layer, at a region encompassed by the bank, from a nozzle arranged at an ink jet head;

removing a solvent vapor evaporating from a droplet of the second liquid droplets arranged previously on the substrate;

discharging liquid droplets of the second liquid at a low partial vapor pressure of the solvent; and

forming a second electrode.

15. An ink jet apparatus, comprising:

first liquid droplets discharging device for discharging a first liquid droplets containing a hole injection-transportation layer material and a first solvent; a first solvent vapor removing device;

wherein the first solvent vapor removing device remove the first solvent vapor evaporating from a droplet discharged from the first liquid discharging device of arranged previously on the substrate.

second liquid droplets discharging device for discharging a second liquid droplets containing a organic electroluminescence material and a second solvent; and

a second solvent vapor removing device;

wherein the second solvent vapor removing device remove the second solvent vapor evaporating from a droplet discharged from the second liquid discharging device of arranged previously on the substrate.

16. An ink jet apparatus, comprising:

first liquid droplets discharging device for discharging a first liquid droplets containing a hole injection-transportation layer material and a first solvent; a first solvent vapor controlling device;

wherein the first solvent vapor controlling device remove the first solvent vapor evaporating from a droplet discharged from the first liquid discharging device of arranged previously on the substrate.

second liquid droplets discharging device for discharging a second liquid droplets containing a organic electroluminescence material and a second solvent; and

a second solvent vapor controlling device;

wherein the second solvent vapor controlling device remove the second solvent vapor evaporating from a droplet discharged from the second liquid discharging device of arranged previously on the substrate.